

THE PATENT OFFICE OF THE PEOPLE'S REPUBLIC OF CHINA

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Applicant:	NOKIA CORPORATION	Date of Notification: Date: <u>12</u> Month: <u>01</u> Year: <u>2007</u>
Attorney:	Pu Feng	
Application No.:	03826970.8	
Title of the Invention:	METHOD AND DEVICE FOR RECOGNIZING A DUAL POINT USER INPUT ON A TOUCH BASED USER INPUT DEVICE	

Notification of the First Office Action

1. ☒ The applicant requested examination as to substance on Feb. 24, and examination has been carried out on the above-identified patent application for invention under Article 35(1) of the Patent Law of the People's Republic of China(hereinafter referred to as "the Patent Law").
- ☐ The Chinese Patent Office has decided to examine the application on its own initiative under Article 35(2) of the Patent Law.

2. ☐ The applicant claimed priority/priorities based on the application(s):
filed in _____ on _____, filed in _____ on _____,
filed in _____ on _____, filed in _____ on _____,
filed in _____ on _____, filed in _____ on _____.
- ☐ The applicant has provided the priority documents certified by the Patent Office where the priority application(s) was/were filed.
- ☐ The applicant has not provided the priority documents certified by the Patent Office where the priority application(s) was/were filed and therefore the priority claim(s) is/are deemed not to have been made under Article 30 of the Patent Law.
- ☐ The application is a PCT continuation.

3. ☐ The applicant submitted amendments to the application on _____ and on _____, wherein the amended _____ submitted on _____ and the amended _____ submitted on _____ are not acceptable, because said amendments do not comply with ☐Article 33 of the Patent Law.

☐Rule 51 of the Implementing Regulations of the Patent Law.
The specific reasons why the amendments are not allowable are set forth in the text portion of this Notification.

4. ☒ Examination as to substance was directed to the initial application documents as filed.
- ☐ Examination as to substance was directed to the documents as specified below:
claims _____, pages _____ of the description and drawings _____ filed on the date of filing,
claims _____, pages _____ of the description and drawings _____ submitted on _____,
claims _____, pages _____ of the description and drawings _____ submitted on _____,
and the abstract submitted on _____.
5. ☐ This Notification is issued without search reports.
- ☒ This Notification is issued with consideration of the search results.
- ☒ Below is/are the reference document(s) cited in this Office Action(the reference number(s) will be used throughout the examination procedure):

No.	Number(s) or Title(s) of Reference(s)	Date of Publication (or the filing date of conflicting application)
1	JP8-54976A	Date: <u>27</u> Month: <u>2</u> Year: <u>1996</u>
2		Date: __ Month: __ Year: __
3		Date: __ Month: __ Year: __
4		Date: __ Month: __ Year: __
5		Date: __ Month: __ Year: __

6. Conclusions of the Action:

☒ On the Specification:

- ☐ The subject matter contained in the application is not patentable under Article 5 of the Patent Law.
☐ The description does not comply with Article 26 paragraph 3 of the Patent Law.
☒ The draft of the description does not comply with Rule 18 of the Implementing Regulations.

☒ On the Claims:

- ☒ Claim(s) 16-18 is/are not patentable under Article 25 of the Patent Law.
☐ Claim(s) _____ does/do not comply with the definition of inventions prescribed by Rule 2 paragraph 1 of the Implementing Regulations.
☒ Claim(s) 1,2,13-15 does/do not possess the novelty as required by Article 22 paragraph 2 of the Patent Law.
☐ Claim(s) _____ does/do not possess the inventiveness as required by Article 22 paragraph 3 of the Patent Law.
☐ Claim(s) _____ does/do not possess the practical applicability as required by Article 22 paragraph 4 of the Patent Law.
☒ Claim(s) 6 does/do not comply with Article 26 paragraph 4 of the Patent Law.
☐ Claim(s) _____ does/do not comply with Article 31 paragraph 1 of the Patent Law.
☒ Claim(s) 4,5,7,8,9,11-15,20 does/do not comply with the provisions of Rules 20-23 of the Implementing Regulations.
☐ Claim(s) _____ does/do not comply with Article 9 of the Patent Law.
☐ Claim(s) _____ does/do not comply with the provisions of Rule 12 paragraph 1 of the Implementing Regulations.

7. In view of the conclusions set forth above, the Examiner is of the opinion that:

- ☐ The applicant should make amendments as directed in the text portion of the Notification.
☒ The applicant should expound in the response reasons why the application is patentable and make amendments to the application where there are deficiencies as pointed out in the text portion of the Notification, otherwise, the application will not be allowed.
☐ The application contains no allowable invention, and therefore, if the applicant fails to submit sufficient reasons to prove that the application does have merits, it will be rejected.
☐

8. The followings should be taken into consideration by the applicant in making the response:

- (1) Under Article 37 of the Patent Law, the applicant should respond to the office action within 4 months counting from the date of receipt of the Notification. If, without any justified reason, the time limit is not met, the application shall be deemed to have been withdrawn.
- (2) Any amendments to the application should be in conformity with the provisions of Article 33 of the Patent Law. Substitution pages should be in duplicate and the format of the substitution should be in conformity with the relevant provision contained in "The Examination Guidelines".
- (3) The response to the Notification and/or revision of the application should be mailed to or handed over to the "Reception Division" of the Patent Office, and documents not mailed or handed over to the Reception Divisions have no legal effect.
- (4) Without an appointment, the applicant and/or his agent shall not interview with the Examiner in the Patent Office.

9. This Notification contains a text portion of 3 pages and the following attachments:
☒ 1 cited reference(s), totaling 5 pages. ☐

Examination Dept. _____

Examiner: _____

Seal of the Examination Department. _____

Text of the First Office Action

I. Claims 1, 2 and 13-15 do not possess novelty of Article 22, Paragraph two of the Patent Law.

1. Claim 1 seeks to protect a method for recognizing a dual point user input on a touch based user input device. Reference 1 (JP8-54976A) discloses a method for recognizing a dual point input on a resistance film manner touch panel and recites the following technical features (see claims 1-3; paragraphs 0013-0014 of the specification of Reference 1): the resistance film receiving a first point input on the resistance film manner touch panel (corresponding to receiving of a first user input to said input device relating to a first position of claim 1); forming a first point coordinate relating to the first point input through analog-to-digital conversion in accordance with potential in X and Y directions (corresponding to forming of a first position signal relating to said first user input of claim 1); the resistance film receiving a second point input on the resistance film manner touch panel (corresponding to receiving of a second user input to said input device relating to a second position of claim 1); forming a midpoint coordinate of the first point input and the second point input relating to the second point input through analog-to-digital conversion in accordance with potential in X and Y directions (corresponding to forming of a second position signal relating to said first input and said second input of claim 1); determining on the basis of a potential difference between the first point coordinate and the midpoint coordinate before analog-to-digital conversion, if an input is a dual point input (corresponding to the technical feature of claim 1, i.e. determining on the basis of said first position signal and said second

position signal, if said second user input has its source in a simultaneous dual point user input); and obtaining a second point coordinate based on the first point coordinate (a, b), the midpoint coordinate data (m, n) and the formula $x = 2m - a$, $y = 2n - b$, and using the first point coordinate and the second point coordinate, as the coordinates of the dual point input (corresponding to the technical feature of claim 1, i.e. generating a third position based on said first position signal and said second position signal, and using said first and third positions, as the coordinates of said dual point user input). Apparently, Reference 1 has disclosed all the technical features of claim 1; moreover, the technical solution disclosed in Reference 1 and that claimed in claim 1 belong to the same technical field, solve the same technical problem, i.e. recognizing a dual point user input, and will achieve the same expected effect. Consequently, the technical solution of claim 1 does not possess novelty of Article 22, Paragraph two of the Patent Law.

2. The technical feature which claim 2 further defines on the basis of claim 1 has also been disclosed in Reference 1 (see paragraphs 0013-0014 and 0021 of the specification of Reference 1): the generated second point coordinate corresponds to the location where the second point input generates the midpoint coordinate (corresponding to the technical feature of claim 2, i.e. said generated third position is essentially the same location as the said second user input at said second position). Consequently, when referenced claim 1 does not possess novelty, dependent claim 2 also does not possess novelty of Article 22, Paragraph two of the Patent Law.

3. The technical feature which claim 13 further defines has also been disclosed in Reference 1 (see paragraph 0003 of the specification; Fig. 3

of Reference 1): the dual point simultaneous input may use a traditional single point input device (corresponding to the technical feature of claim 13, i.e. said input device is capable of only outputting a single input position signal that depends on the actual user input). Consequently, when referenced claim 1 or 2 does not possess novelty, dependent claim 13 also does not possess novelty of Article 22, Paragraph two of the Patent Law.

4. The technical feature which claim 14 further defines has also been disclosed in Reference 1 (see paragraph 0013 of the specification of Reference 1): storing the first point coordinate (corresponding to the technical feature of claim 14, i.e. storing said first position signal). Consequently, when referenced claim 1, 2 or 13 does not possess novelty, dependent claim 14 also does not possess novelty of Article 22, Paragraph two of the Patent Law.

5. The technical feature which claim 15 further defines has also been disclosed in Reference 1 (see paragraph 0010 of the specification of Reference 1): the second position is the midpoint between the first point coordinate and the second point coordinate (corresponding to the technical feature of claim 15, i.e. said second position is differing from said first position). Consequently, when referenced claim 1, 2, 13 or 14 does not possess novelty, dependent claim 15 also does not possess novelty of Article 22, Paragraph two of the Patent Law.

II. Claims 4, 5, 7, 9 and 11-15 do not refer to the preceding claims in alternative way and thus do not comply with the provisions of Rule 23, Paragraph two of the Implementing Regulations of the Patent Law.

III. A typo is omitted.

IV. Claims 7, 8 and 20 do not comply with the provisions of Rule 20, Paragraph one of the Implementing Regulations of the Patent Law.

1. Claim 7 states "possible input options." Since the meaning of "possible input options" is unclear, the protection scope of claim 7 is unclear. Consequently, claim 7 does not comply with the provisions of Rule 20, Paragraph one of the Implementing Regulations of the Patent Law.

2. Claim 8 states "half edge distance area." Since the meaning of "half edge distance area" is unclear, the protection scope of claim 8 is unclear. Consequently, claim 8 does not comply with the provisions of Rule 20, Paragraph one of the Implementing Regulations of the Patent Law.

3. Claim 20 states "said second evaluation unit," whereas referenced claim 19 does not mention a "second evaluation unit." Consequently, the protection scope of claim 20 is unclear, which does not comply with the provisions of Rule 20, Paragraph one of the Implementing Regulations of the Patent Law. It is suggested that the applicant amend "said second evaluation unit" as "said second evaluation circuit."

V. Claims 16-18 fall into the scope of rules and methods for mental activities under Article 25, Paragraph one, item (2) of the Patent Law and should not be granted the patent right.

1. Claim 16 seeks to protect a software tool which is defined by program codes only. Since its essence merely relates to rules and methods for mental activities, claim 16 falls into the scope of rules and methods for mental activities under Article 25, Paragraph one, item (2) of the Patent

Law and should not be granted the patent right.

2. Claims 17-18 each seek to protect a computer program product which is defined by program codes only. Since their essence merely relates to rules and methods for mental activities, claims 17-18 fall into the scope of rules and methods for mental activities under Article 25, Paragraph one, item (2) of the Patent Law and should not be granted the patent right.

VI. The specification does not comply with the provisions of Rule 18, Paragraph three and Rule 19, Paragraph three of the Implementing Regulations of the Patent Law.

1. A typo is omitted.

2. Reference numerals 82, 88, 90 and 92 mentioned in page 15 of the specification do not appear in the accompanying drawings, which does not comply with the provisions of Rule 19, Paragraph three of the Implementing Regulations of the Patent Law.

For the reasons mentioned above, the present application cannot be granted the patent right based on the current version. If the applicant amends the application document in accordance with the examination opinions provided in this notification and overcomes the existing deficiencies, then the present application might be granted the patent right. Amendments to the application document should comply with the provisions of Article 33 of the Patent Law and Rule 51, Paragraph three of the Implementing Regulations thereof.

Attorney's Comments

In view of the First Office Action, we provide the following comments for your reference:

As to Claims 4, 5, 7, 9 and 11-15, the deficiency of the claims is not as raised by the examiner, i.e. "not referring to the preceding claims in alternative way", but that a multiple dependent claim should not serve as antecedent basis for another multiple dependent claim. It is suggested that the applicant make them refer to the claim 1.

As to claim 7, it is suggested to clarify the technical meaning of "possible input options" so as to clarify the protection scope of claim 7.

As to claim 8, it is suggested to clarify the technical meaning of "half edge distance area" so as to clarify the protection scope of claim 8.

As to claim 20, it is suggested that the applicant replaces "said second evaluation unit" with "said second evaluation circuit" and thereby makes the protection scope of claim 20 clear.

As to claims 16-18, because the subject matter of these claims belong to the rules and methods for mental activities and cannot be granted for the patent right, it is suggested that the applicant delete these claims.

It is suggested that the applicant add to the Figure 8 the missing Reference numerals 82, 88, 90 and 92.

Please confirm whether our above-mentioned understanding is correct or not. For filing a convincing argument, your further input also is expected.

For your convenience, we give the Article 22, Paragraph two of the Patent Law as follows:

Novelty means that, before the date of filing, no identical invention or utility model has been publicly disclosed in publications in the country or abroad or has been publicly used or made known to the public by any other means in the country, nor has any other person filed previously with the Patent Administration Department under the State Council an application which described the identical invention or utility model and was published after said date of filing.

Article 26, paragraph 4 of the Chinese Patent Law as follows:

The claims shall be supported by the description and shall state the extent of the patent protection asked for.

Rule 20, Paragraph one of the Implementing Regulations of the Patent Law as follows:

The claims shall define clearly and concisely the matter for which protection is sought in terms of the technical features of the invention or utility model.

PATENT ABSTRACTS OF JAPAN

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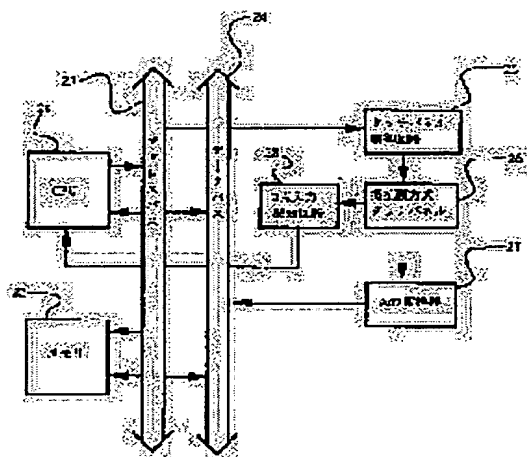
(54) RESISTANCE FILM SYSTEM TOUCH PANEL

(57)Abstract:

PURPOSE: To discriminate the coordinates of two points when the two points are simultaneously inputted in a touch panel by providing a two-point input sensing circuit and a storage circuit (memory) on a resistance film system touch panel and calculating the coordinate of the second points.

CONSTITUTION: A touch panel control circuit 25 switches the measuring axis of an input location. Now, two points are simultaneously inputted in a resistance film system touch panel 26 forming a tablet. But, even if the two points are simultaneously inputted, a slight time difference is generated in the two points any way. By using the slight time difference, the coordinate of the point inputted at first is stored in a memory 22.

When the second point is inputted, the two points input is sensed by a two-point input sensing circuit 28 and an interruption is generated in a CPU 21. The output of the touch panel 26 when the two points are simultaneously inputted is the about middle point of the two points. In this case, because the coordinate of the point inputted at first is stored in the memory 22, the coordinate of the input point of the second point can be calculated from the coordinates of the point inputted at first and the middle point of the two points.



JP8-54976A

[0001]

[Industrial Application] This invention relates to the resistance film method touch panel which personal digital assistant equipment etc. uses as an input means, and has.

[0002]

[Description of the Prior Art] Although personal digital assistant equipment etc. is marketed gradually in recent years, the resistance film method touch panel is used as an input unit in the personal digital assistant machine etc.

[0003] Below, the operation is indicated to be the conventional resistance film method touch panel. Drawing 3 is the block diagram showing the outline circuitry of the location measuring circuit using the conventional resistance film method touch panel.

[0004] For an address bus and 3, as for a touch panel control circuit and 5, a data bus and 4 are [1 / CPU and 2 / a resistance film method touch panel and 6] A/D converters.

[0005] Here, the touch panel control circuit 4 switches a x axis and the measurement shaft of the y-axis.

[0006] Next, drawing 4 is the schematic diagram having shown the circuitry when being inputted into the conventional resistance film method touch panel at two-point coincidence in strabism.

[0007] 7 -- a power source and 8 -- touch-down and 9 -- for an electrode, and 14 and 15, as for contact resistance and 18, an electrical-potential-difference detection terminal, and 19 and 20 are [an input pen, and 16 and 17 / a lower resistance film sheet, and 11, 12 and 13 / an up resistance film sheet and 10] input points.

[0008] When it is inputted into coincidence with a pen 14 and a pen 15 at the input points 19 and 20 of the up resistance film sheet 9, the electrical-potential-difference value of each input point gets across to the lower resistance film sheet 10 through contact resistance 16 and 17.

[0009] Therefore, from the electrical-potential-difference detection terminal 18, the average of the electrical-potential-difference value of input points 19 and 20 is outputted.

[0010] That is, when inputted into a resistance film method touch panel at two-point coincidence, the coordinate of the inputted middle point of two points is outputted.

[0011]

[Problem(s) to be Solved by the Invention] However, with the above-mentioned conventional configuration, in order to detect the partial pressure of the point of contact of the resistance film sheet of two sheets, when an input point is inputted into two-point coincidence, the electrical-potential-difference value concerning the combined resistance of an input point will be detected, and it had the trouble of being incorrect-inputted.

[0012] When it is the input unit which this invention solves the above-mentioned conventional trouble, and used the resistance film method touch panel in a personal digital assistant machine etc. and is inputted into two-point coincidence in here, it aims at offering the resistance film method touch panel equipped with the device in which the coordinate of two points is identified.

[0013]

[Means for Solving the Problem] In order to attain this purpose, the resistance film method touch panel of this invention compares the output voltage from the both ends of an electrical-potential-difference value detection side resistance film sheet using an electrical-potential-difference comparison means to by_ which the comparator etc. was used, and it has the configuration of the device which senses being inputted into two point coincidence, the store which memorizes the inputted coordinate, CPU which performs an operation, and the A/D converter which digitizes the output-voltage value from a touch panel. That is, it is a resistance film method touch panel with a resistance film method touch panel, the circuit which senses it when inputted into two-point coincidence, the A/D converter which digitizes the output voltage value from a resistance film method touch panel, CPU which performs an operation, the memory which performs a data storage, and its circumference circuit. moreover

-- desirable -- When it is the first coordinate (a, b) of the 1st point, the coordinate (x y) of the 2nd point, and the coordinate (m, n) of the midpoint of the 1st point and the 2nd point from few time difference produced when inputted into two-point coincidence, it is the resistance film method touch panel which carries out operation derivation of the coordinate (x y) of the 2nd point from $x=2m-a$ and $y=2n-b$. When a resistance film method touch panel input is carried out still more desirably at two-point coincidence, it is the resistance film method touch panel which sense what the minute potential difference produced in inter-electrode [which was arranged in the side edge as for which a resistance film method touch panel carries out phase confrontation / two] was inputted for by two-point coincidence through the comparator, and CPU is made to generate interruption, and carries out operation derivation of the coordinate (x y) of the 2nd point.

[0014]

[Function] the time of this invention being inputted into a resistance film method touch panel by having constituted in this way at two-point coincidence -- **** in the meantime -- few time difference is caught, and the coordinate of each two point can be calculated and identified.

[0015]

[Example] Hereafter, the example of this invention is explained, referring to a drawing.

[0016] Drawing 1 is the block diagram showing the outline circuitry of the location measuring circuit using the resistance film method touch panel in one example of this invention.

[0017] drawing 1 -- setting -- 21 -- CPU and 22 -- for a data bus and 25, as for a resistance film method touch panel and 27, a touch panel control circuit and 26 are [memory and 23 / an address bus and 24 / an A/D converter and 28] two-point input sensing circuits.

[0018] And the touch panel control circuit 25 changes the measurement shaft of an input location. Suppose that it was now inputted into the resistance film method touch panel 26 which accomplishes a tablet [tablet] in drawing 1 at two-point coincidence.

[0019] However, even if two points are inputted into coincidence, even when it is small to the two points, in them, time difference arises anyhow.

[0020] Memory 22 is made to memorize the coordinate of the point of having been inputted first, using few of the time difference.

[0021] And when the 2nd point is inputted, sense a two-point input in the two-point input sensing circuit 28, CPU21 is made to generate interruption, and the following processings are performed.

[0022] the output from the resistance film method touch panel 26 when being inputted into two-point coincidence -- two points -- it is the coordinate of the middle point mostly.

[0023] Since the coordinate of the point of having been inputted first is memorized by memory 22, the coordinate of the input point of the 2nd point is computable from the coordinate of the point of having been inputted first, and the middle point of two points.

[0024] If the coordinate of (x, y), and the middle point of two points is set [the coordinate of the first input point] to (m, n) for the coordinate of (a, b), and the input point of the 2nd point, the coordinate (x y) of the input point of the 2nd point will be the following, and will be made and searched for.

[0025]

$$m = (a+x)/2 \dots\dots\dots (1)$$

$$n = (b+y)/2 \dots\dots\dots (2)$$

$$\text{By the reason } x=2m-a \dots\dots\dots (3)$$

$$y=2n-b \dots\dots\dots (4)$$

Thus, the coordinate (x y) of the input point of the 2nd point is searched for from (3) and (4) types.

[0026] Moreover, drawing 2 is the block diagram showing the circuitry of the two-point input sensing circuit in one example of this invention.

[0027] As for a resistance film method touch panel, and 30 and 31, in drawing 2, 29 is [an electrode and 32] comparators.

[0028] When inputted into two-point coincidence, in drawing 2, the minute potential difference arises in an electrode 30 and an electrode 31.

[0029] A comparator 32 compares the potential difference, and when the potential difference arises, a two-point coincidence input can be sensed by outputting a signal.

[0030]

[Effect of the Invention] When it is inputted into a touch panel at two-point coincidence by establishing a two-point input sensing circuit and a store circuit (memory) in a resistance film method touch panel, and computing the coordinate of the 2nd point on it, this invention can do so effectiveness special [that implementation of the input unit excellent in the Personal Digital Assistant machine which can identify the coordinate of two points is possible], so that clearly from the above explanation.

[Claim 1] The resistance film method touch panel characterized by having a resistance film method touch panel, the circuit which senses it when inputted into two-point coincidence, the analog / digital transducer which digitizes the output voltage value from a resistance film method touch panel, CPU which performs an operation, the memory which performs a data storage, and its circumference circuit.

[Claim 2] If it is the first coordinate (a, b) of the 1st point, the coordinate (x y) of the 2nd point, and the coordinate (m, n) of the midpoint of the 1st point and the 2nd point from few time difference produced when inputted into said two-point coincidence $x=2m-a$, the resistance film method touch panel according to claim 1 characterized by carrying out operation derivation of the coordinate (x y) of the 2nd point from $y=2n-b$.

[Claim 3] What the minute potential difference produced in inter-electrode [which was arranged in the side edge as for which said resistance film method touch panel carries out phase confrontation / two] was inputted for by said two-point coincidence through the comparator when a resistance film method touch panel input was carried out at said two-point coincidence is sensed. The resistance film method touch panel according to claim 2 characterized by making said CPU generate interruption and carrying out operation derivation of said coordinate (x y) of the 2nd point.